Remarks/Arguments

Claims 16-29 are pending in the application

Claims 16-29 stand rejected.

Claims 18 and 24 have been cancelled herein. As claims 18 and 24 have been cancelled the claim objections are obviated.

The independent claims 16, 22, 28 and 29 have been amended to more clearly and distinctly claim the subject matter that applicants regard as their invention. No new matter is believed to be added by the present amendment.

Claim 16 has been amended to clarify that generating a parametric description of a non-point sound source includes fields specifying decorrelation information. For example to a first field, a value is assigned which specifies one of several decorrelations to be applied. Where the same audio signal is used for more than one non-point sound source, for each of said non-point sound sources, a different value is assigned to apply different decorrelations to each of said non-point sound sources. Furthermore, the decorrelation information includes a second field to which a value is assigned specifying the decorrelation strength of the decorrelation to be applied. Claims 22, 28 and 29 have also been amended to include similar features.

These features are supported by the specification, for example Figure 4 of the application shows three sound boxes A1, A2 and A3. As can be seen in table 4, for the first sound box the diffuseSelect parameter starts with 1, for the next sound box this diffuseSelect parameter is incremented to 2 and for the third sound box it is incremented to 3. Thus, for different non-point sound sources using the same audio signal, the non-point sound sources have to be decorrelated from each other to ensure the perception of a complex shape built by the different non-point sound sources. To ensure this, different decorrelations can be selected at the receiving end. That means that during authoring of the sound scene no decorrelation functions/algorithms are applied. Such decorrelation functions/algorithms are also not transmitted but <u>only the information to apply different decorrelations is transmitted</u> like shown in the BIFS example for the scene of Figure 4 and as seen in table 4.

The second field value indicates the grade of decorrelation each decorrelator should produce. Referring to the BIFS example as shown in table 4,

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for the decorrelation strength of each sound box a value of 1.0 is assigned, corresponding to full decorrelation. On the other hand, a value of 0.0 would specify full correlation. Values between are also possible. This further enhances flexibility and defines the decorrelation strength to be applied at the receiving end in a very general way.

Thus, the claimed invention provides advantages over the prior art by allowing the same audio signal to be used for several non-point sound sources, thereby creating complex shapes from more primitive shapes like the creation of an audience consisting of three sound boxes A1, A2 and A3 shown in Figure 4 of the application.

Rejection of claims 16-29 under 35 USC 102(b) as allegedly being anticipated by Potard et al. (hereinafter Potard) "Using XML Schemas to Create and Encode Interactive 3-D Audio Scenes for Multimedia and Virtual Reality Applications"

Applicants submit that for at least the reasons discussed below claims 16-17, 19-23, and 25-29 are not anticipated by Potard because the reference fails to teach or even suggest each and every claimed feature.

Claim 16 includes the features of: "generating a parametric description of a non-point sound source, said parametric description including fields specifying decorrelation information."

Potard fails to suggest the feature of a parametric description with fields. Potard only discusses the macro-objects in sect. 2.3 and 2.3.1. These macro-objects are only utilized with regard to the repetition of an obect or grouping related objects such as a group of choristers. This is different from a field specifying decorrelation information as recited in claim 16.

Furthermore, Potard does not even suggest the need to apply a decorrelation where the same audio signal is used for more than one non-point sound source. As pointed out above, Potard in section 2.3.1 only discloses macro-objects, which relate to the repetition of an object after some transformation. For example, a group of choristers is created from the same singer-object by repeating it several times after a pitch transformation is applied.

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Clearly, the pitch transformations are only applied to generate an ensemble of singers consisting for example of soprano, alto, tenor and bass voices. While this suggests the audio signal is altered to generate an ensemble, there is not a suggestion at all that the alteration is related to decorrelating the signals.

Additionally, claim 16 includes: "to a first field, a value is assigned which specifies one of several decorrelations to be applied to said non-point sound source" and "to a second field a value is assigned which specifies the decorrelation strength of the specified decorrelation to be applied to said non-point sound source."

Potard also fails to suggest the claimed first field for specifying a decorrelation and the second field for a decorrelation strength to be applied as more particularly recited in claim 16. Potard simply discloses the macro-objects, which relate to the repetition of an object after some transformation, where the transformation does not relate to a decorrelation.

For at least the foregoing reasons, it is respectfully submitted claim 16 includes features not found or suggested in Potard. Therefore, the rejection of claim 16 should be should be withdrawn. Claims 17 and 19-21 depend from claim 16 and include the above discussed distinguishing features. In addition, each dependent claim includes further distinguishing features not found or even suggested in Potard.

Independent claims 22, 27 and 28, while different from claim 16, include similar distinguishing features as discussed above with regard to claim 16. Accordingly, without conceding any statements or waiving any arguments concerning claims 22, 27 and 28, each of these independent claims are allowable for at least the reasons discussed above and the rejections should be withdrawn.

Claims 23 and 25-26 depend from claim 22 and include at least the distinguishing features recited in claim 22. As discussed above, with regard to claim 16, these features are not found or suggested in Potard. In addition, each dependent claim includes further distinguishing features not found in Potard.

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Conclusion

Having fully addressed the Examiner's rejections it is believed that, in view of the preceding and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however, the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at (609) 734-6813, so that a mutually convenient date and time for a telephonic interview may be scheduled.

Respectfully submitted,

JENS SPILLE ET AL.

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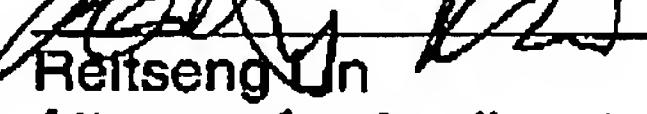
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